

3021

**Adams, Karen K NAE**

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**From:** two abbott [twoa@cape.com]  
**Sent:** Tuesday, February 01, 2005 7:49 PM  
**To:** Michael O'Leary; Robert MacFadyen; Maureen Jankauskas; Laurie Tompkins; Mark Kennedy; Diane Rieger; Don Lunn; Jeanne Concannon; Hankand Susan Bode; Energy, Wind NAE  
**Subject:** CPWB minutes



January 2005  
minutes.doc

Attached are minutes of the January 3rd meeting of the Steering Committee. Hope to hear from everyone before March 7th. - Jayne

3021

CPWB Steering Committee meeting January 3, 2005

The CPWB Steering Committee met at Reserve headquarters on Monday, January 3, 2005 at 7 p.m. Attending were members Jeanne Concannon, Nancy Gwynne, Maureen Jankauskas, Mark Kennedy, Don Lunn, Bob MacFadyen, Mike O'Leary, Diane Rieger, Vida Wagner, Tom and Jayne Abbott.

Bob presented the treasurer's report and noted that grant residuals are still being used by the Reserve. He told us that he has signed on Scot Leroux as our new accountant with more reasonable rates for his services.

Jayne reported that to honor the memory of Ruth Stewart, a long-time resident of Waquoit who died in December, her family requested that donations be made to CPWB in her name. As of this meeting these amounted to \$305.00

Mark brought us up to date on the poster contest. The topic is "our saltwater neighbors/human effects on the estuary." Pat Harcourt will be speaking to four third grade classes at the East Falmouth School on January 20<sup>th</sup> and flyers will go home with each child telling the parents about the March reception at WBNERR. Vida said the PTO could be helpful. We discussed prizes for the winners and what to give all participants. We voted to authorize \$200 (or more if needed) for the contest. Mark will have help from Diane and Toni. Mashpee will have presentations in April and a May reception.

For next year Don suggested that his niece might design a coloring book to give to the children and perhaps sell to raise money for the Reserve. Jeanne offered her help and Joan Muller will be contacted about the proposed project.

Maureen gave us the most recent draft of the brochure by Kristen vonHentschel. We will not expect to go to print before May, and Mike will talk to Greg Stone about doing the job. We decided that the "what to do" list should be in a larger font on a lighter background and spread across the two middle pages, eliminating the "why" list. Kristen will communicate with Jayne as Maureen will be away until April.

Maureen also gave Jayne the winter newsletter to have printed and mailed.

Our next meeting at Reserve headquarters will be on March 7, starting at 6:30 p.m. with judging the East Falmouth posters first on the agenda.

Respectfully submitted,

**CPWB Steering Committee meeting Monday,  
March 7 6:30 pm. Please call Jayne (540-1948)  
before that date to say whether you can come.**

**Adams, Karen K NAE**

3022

**From:** erika-marshall@comcast.net  
**Sent:** Tuesday, February 01, 2005 3:22 PM  
**To:** Energy, Wind NAE  
**Subject:** Please extend the public comment period on the Cape Wind DEIS



Please immediately extend the public comment period on the Draft Environmental Impact Statement for the proposed Cape Wind project to 180 days. Any shorter time period is entirely insufficient to allow the public ample opportunity to provide input on such a lengthy and important document on a complex and controversial project.

Thank you for your prompt attention to this matter.

Sincerely,

Erika Marshall

2/2/2005

3022

**Adams, Karen K NAE**

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**From:** Erika Marshall [erika-marshall@comcast.net]  
**Sent:** Tuesday, February 01, 2005 3:34 PM  
**To:** Energy, Wind NAE  
**Subject:** Deny Cape Wind's application to build turbines in Nantucket Sound

Colonel Thomas Koning  
U.S. Army Corps of Engineers,  
696 Virginia Rd.,  
Concord, MA 01742-2751

Dear Colonel Koning,

The Army Corps of Engineers should deny Cape Wind's application to construct 130 turbines in Nantucket Sound. There is no federal authorization to use our public trust resources for this purpose. Nor does the developer have any property rights to exploit these public lands. Without federal authorization, any means for protecting coastal resources, or any process for compensating the public, this project cannot be in the public interest. That question must be answered by our representatives after national debate, not by one office of a federal agency improperly arrogating the authority of Congress.

In addition, the draft environmental impact statement that has been prepared is inadequate. More studies are needed before the Army Corps can assess the potential impacts of the Cape Wind project. Indeed, those studies are the very studies that Congress would require to shape a national policy on offshore wind energy. Without this critical information, there is simply no way to determine whether the Cape Wind project is in the best interests of both the public and wildlife.

Finally, the Bush Administration needs to develop responsible clean energy and ocean conservation programs. The continued failure to do so is sacrificing our environment to private developers.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is seriously flawed, because it ignores relevant information and draws conclusions based on inadequate research.

Sincerely,  
Erika Marshall

96 Old Farm Road; Centerville, MA 02632

2/2/2005

3023

**Adams, Karen K NAE**

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**From:** Krystal Moeller [kmoeller@couragecap.com]  
**Sent:** Tuesday, February 01, 2005 3:36 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind

State Senator Robert O'Leary and Cape and Islands Representative Eric Turkington, along with numerous other Massachusetts lawmakers, have petitioned Governor Mitt Romney to sign an executive order that would put a moratorium on the funding and permitting of offshore wind energy projects off the coast of Massachusetts.

As a resident of Nantucket, I support this moratorium and am asking him to please sign the executive order and issue the moratorium immediately.

Sincerely,  
Richard C. Patton

2/2/2005

3024

**Adams, Karen K NAE**

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**From:** Richard Mayfield [rmayfiel@hamilton.edu]  
**Sent:** Tuesday, February 01, 2005 12:07 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind

Dear Ms. Adams,

I am a resident of Cape Cod and am strongly opposed to the proposed wind project. I am writing you to voice my concern over the proposal. It would destroy the natural habitat of Nantucket Sound and significantly impact members of the community. The negative externalities created from this project would far outweigh the benefits. Please take my letter into account.

Sincerely,

Rick Mayfield

3025

**Adams, Karen K NAE**

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**From:** sharyn.porter@qwest.com  
**Sent:** Tuesday, February 01, 2005 12:03 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds - 12 months of radar observations of flying wildlife - A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Please do not just approve this permit for political reasons but make sure it is a sound action.

Sincerely,

Sharyn Porter  
624 Arborway Court  
Worthington, Ohio 43085-4801

3026

**Adams, Karen K NAE**

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**From:** angelsluv1958@care2.com  
**Sent:** Tuesday, February 01, 2005 1:05 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Toni Jonckheere  
1330 Jalna Blvd.  
London, N6E 2H7  
Canada

3027

**Adams, Karen K NAE**

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**From:** Cutencrazyj@yahoo.com  
**Sent:** Tuesday, February 01, 2005 5:43 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Justine Hipsky  
154 Seaview St.  
Melbourne Beach, Florida 32951

302B

Adams, Karen K NAE

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**From:** elained@got.net  
**Sent:** Tuesday, February 01, 2005 9:02 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

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- 12 months of radar observations of flying wildlife
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This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Elaine Charkowski  
2080 7th Ave.  
Santa Cruz, California 95062

3029

**Adams, Karen K NAE**

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**From:** Bvellucci@aol.com  
**Sent:** Wednesday, February 02, 2005 2:44 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Bridget Vellucci  
532 Cambridge Street  
Apt. 3  
Cambridge, Massachusetts 02141

~~3030~~  
3030

Karen Kirk Ardams  
EIS Project Manager  
Cape Wind Energy Project  
Corp of Engineers, New England District  
696 Virginia Road  
Concord, MA 01742-2751

Dear Ms. Adams, please allow me to record my enthusiastic support for the renewable energy project you have under review. The Cape Wind Project will begin a much needed shift for our Nation to the energy independence we so obviously need. There can be no secure future for us if the middle east continues to control this vital portion of our economy. Please approve the Cape Wind Project. The self serving vocal minority which opposes this project does not represent the majority of clear thinking citizens who welcome a chance to become self-sufficient in the production of energy.

Thank you for your consideration,  
Steve Falvey  
11 Bisbee Road  
Saugus, MA 01906

Adams, Karen K NAE

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**From:** Candace Widmer [candacebrookswidmer@yahoo.com]  
**Sent:** Wednesday, February 02, 2005 1:04 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind

The following is a letter I sent to Cape Wind Associates.

Dear Cape Wind Associates:

I am writing about your plan to put a wind farm in Nantucket Sound. I am not a supporter of it. It is not that I do not like windmills; it is just that it is not the right place for them.

I do not like them because they will spoil the great view of Nantucket Sound. It is refreshing to just look at the endless ocean and sky. It would appear ugly to see windmills instead of the awesome view. It would impair the beautiful view because according to The Alliance to Protect Nantucket Sound there are 130 windmills, each 417 feet tall, covering over 24 square miles. That would ruin the scenic sight.

I am also concerned that it will harm the commercial as well as the recreational fishing and bird life in the Sound. The Alliance says that this project would block off very rich fishing grounds from fishermen. Many local fishermen earn most of their money fishing in the Sound. The great fishing also attracts a lot of tourists to Cape Cod. These tourists go shopping, eat in restaurants, spend money on summer activities, and rent hotel rooms and houses. This boosts the Cape's economy.

The Alliance says "Nantucket Sound is one of the most important nesting, feeding, and migration staging areas on the east coast." The Sound is also in the Atlantic Flyway, "one of the main migratory bird paths for millions of song birds in spring and fall," according to the Alliance. Although no one knows how big the problems will be, if you build wind farm, I am sure there will be serious ones.

Windmills are a safe, clean, and inexpensive way to generate energy. However, it would be better if you put the wind farm inland where it would not harm fishing, tourism, or bird life.

Sincerely,

Jim Widmer

3032

**Adams, Karen K NAE**

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**From:** CKelley333@aol.com  
**Sent:** Wednesday, February 02, 2005 12:42 PM  
**To:** Energy, Wind NAE  
**Subject:** Go Away

Hello,

I am writing as a concerned citizen of Massachusetts and the proposal to add a wind farm on one of Massachusetts prettiest area's. Have we not ruined this country enough -- for God's sake lets leave some natural beauty untouched by ugly, unsightly pieces of metal!

Sincerely,

Catherine Kelley

2/2/2005

**Adams, Karen K NAE**

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3033

**From:** Stephen O'Keefe (Legato) [o'keefe\_stephen@emc.com]  
**Sent:** Wednesday, February 02, 2005 11:42 AM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind

Karen

I am a property in West Dennis  
and I am strongly opposed to the Cape Wind farm.

Sincerely

Stephen O'Keefe

3034

**Adams, Karen K NAE**

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**From:** EmmaHWard@aol.com  
**Sent:** Wednesday, February 02, 2005 10:14 AM  
**To:** pdascombe@capecodcommission.org  
**Cc:** mepa@state.ma.us; Energy, Wind NAE  
**Subject:** Cepe Wind

I can't believe that this project has even gotten this far! It is obvious that the all mighty dollar still rules. The thought of all those towers erected in beautiful Nantucket sound is criminal, all for the sake of power hungry people. What ever happened to the conservation of energy and preservation of wild life? Who is going to clean it up when it breaks down?  
I vote no, this is not progress.

Sincerely, Emma Ward

3035

Adams, Karen K NAE

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**From:** Jean Mangiafico [jmangiafico@comcast.net]  
**Sent:** Tuesday, February 01, 2005 11:05 PM  
**To:** Energy, Wind NAE  
**Subject:** comment period position on wind energy of the League of Women Voters Cape Cod Area



LWV wind energy  
Position State...

The attached is the position adopted by the league of Women Voters Cape Cod Area on wind energy and the proposal for Nantucket Sound. This statement is our submission for the comment period.

If you have any questions, please contact me - Jean Mangiafico, chair of the environment committee

508-945-3746  
jmangiafico@comcast.net  
912 Main St #307  
Chatham, MA 02633

Karen, we want to thank you for all your very effective effort on this project

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Position Statement  
of the League of Women Voters Cape Cod Area  
on the study of "Wind Energy on Cape Cod"

The LWVCCA supports wind energy as an important source of renewable energy both off shore and onshore.

The members of the LWVCCA believe that the development of utility scale wind energy resources, such as the project proposed by Cape Wind is critical in: meeting the energy needs of our area; helping to provide clean air; providing health benefits for our citizens and addressing the issue of climate change.

The LWVCCA , in order to facilitate future development of wind energy, encourage the appropriate levels of government to create regulatory guidelines for both on and off shore energy.

The LWVCCA , consistent with the need to develop future renewable energy sources at all levels, encourages the installation of onshore wind towers for town and specific facility purposes.

3036

Adams, Karen K NAE

**From:** Frank Bilotta [fbilotta@comcast.net]  
**Sent:** Tuesday, February 01, 2005 10:47 PM  
**To:** Energy, Wind NAE  
**Subject:** Concerns with the Cape Wind Proposal

Karen Kirk-Adams  
 Cape Wind Energy EIS Project  
 U.S. Army Corps of Engineers, New England District  
 696 Virginia Road, Concord, MA 01742

Karen, I am writing to express my concern regarding the Cape Wind project that is being proposed for Nantucket Sound. I have enjoyed the waters of Nantucket Sound for over 40 years and, after review of the plans proposed by Cape Wind, do not believe that this project should be approved. My greatest concern with the project is the tremendous negative impact it will have on a state asset that is not replaceable. This is an area that has been enjoyed by generations of Massachusetts's citizens and should be available without degradation to future generations. A benefit/loss analysis of this proposal does not even come close to making this a desirable endeavor. In addition, there are other concerns that have been identified by Save Our Sound that I also feel highlight the negative impact of this proposal:

- **Land grab.** Cape Wind would occupy 24 square miles of public lands for free.
- **Industrialization.** The Cape Wind project would transform a sparkling ocean jewel into an industrial complex. If other alternative sites are developed, Nantucket Sound could have hundreds more turbines.
- **Visual pollution.** Navigation manuals state a 417' structure is visible at 26 miles. These turbines are less than 5 miles away and would be highly visible!
- **Light pollution.** The plant would have 520 red and amber flashing lights.
- **Noise.** Noise generated from Cape Wind would at times be audible on shore.
- **Boating dangers.** The project would crowd main navigation channels for cargo ships, ferries, and fishing boats. The risk of collisions with the turbine towers would increase especially during fogs and storms, for which the area is known. The Steamship Authority and Hy-Line Cruises, which together transport over three million passengers to and from the Islands every year, oppose the project because of its safety threat.
- **Excessive subsidies.** The public would be paying Cape Wind to build the wind plant. Cape Wind would occupy public land for free and gain millions of dollars per year in subsidies. An economic study by The Beacon Hill Institute estimates Cape Wind would receive a subsidy of \$241 million from state and federal sources.
- **High cost.** Offshore wind costs twice as much as gas fired electricity and significantly more than onshore wind. To survive financially, this project would need continued government subsidies through out the life of the project.
- **Low output.** Proposed wind plant produces only 1% of New England needs at Cape Wind's asserted output. Actual wind speed data is needed to verify output.
- **Meager cost savings.** Cape Wind's best case scenario of electricity cost savings equals only 10 cents per month per New England household.
- **Deeper water locations.** Why can't the project be further offshore? Some European countries are requiring minimum 12 miles offshore. Moray Firth in Scotland is being built in water depths of 130 feet and more than 12 miles offshore.

Please do what you can to insure the proposal to build the Cape Wind project is not approved.

Sincerely

Frank Bilotta

2/2/2005

3037

**Adams, Karen K NAE**

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**From:** Bob [bob@winergyllc.com]  
**Sent:** Tuesday, February 01, 2005 6:11 PM  
**To:** Energy, Wind NAE  
**Subject:** Public Comments for Cape Wind application

My Comments on the DEIS for Cape Wind

Karen please let me know that you have received these comments

Thanks  
Bob Link

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Bob Link  
bob@winergyllc.com

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I've stopped **1,608** spam messages. You can too!  
One month FREE spam protection at [www.cloudmark.com](http://www.cloudmark.com)

**CLOUDMARK SPAMNET**   
*Join the fight against spam!*

--  
No virus found in this outgoing message.  
Checked by AVG Anti-Virus.  
Version: 7.0.300 / Virus Database: 265.8.2 - Release Date: 1/28/2005

2/2/2005

Thank you for allowing me to respond on the Cape Wind application for the placement of offshore wind turbines in Nantucket Sound. Prior to crafting my response, I have taken the time to read the DEIS not once, but twice, and have composed and fashioned my response based on facts, not emotions.

There are large issues at stake here.

My intention within the body of this response is to take you through our short history of electrical generation, and to convey to those that are reviewing the comments that wind-powered generation of electricity is the one of the most environmentally friendly of currently available technologies.

My hope is that this reasoned response, coupled with the many other reasoned responses that you are receiving, will result in issuance to Cape Wind of a permit to construct the wind farm that they have applied for.

In the body of this response, I argue, as concisely as possible, that it would be a mistake to pursue policies that in the long run would expand the use of fossil fuels, with their attendant public health and environmental (including climate change) impacts. It would be detrimental to New England's, and the nation's, economic health and national security to expand reliance on fossil fuels through greater imports of oil, and reliance on coal and nuclear.

I attempt to show that a much greater good will be achieved by marshalling the political will to implement renewable energy and energy efficiency policies which have been thoroughly debated within the Cape Wind application. This application offers the best promise to enhance energy self-sufficiency and energy security for the region and the nation's long-term energy future.

Cape Wind's renewable energy project development will result in new jobs for people and less oil that we have to buy from foreign countries. According to the federal government, America spent \$109 billion to import oil in 2000. If we fully develop this project and other self-renewing resources, we will keep the money at home to help our own economy.

Today, continued research has made renewable energy much more affordable than 25 years ago. The cost of wind energy has declined from 40¢ per kilowatt-hour to less than 5¢. The cost of electricity from the sun, through photovoltaics, has dropped from more than \$1/kilowatt-hour in 1980 to nearly 20¢/kilowatt-hour today. And ethanol fuel costs have plummeted from \$4 per gallon in the early 1980s to \$1.20 today.

Unlike fossil fuel, which dirties the atmosphere, renewable energy has less impact on the environment. Renewable energy production has some drawbacks, mainly associated with the use of large tracts of land that affects animal habitats or outdoor scenery in the case of offshore wind farms, but its development will create jobs and reduce oil imports.

3037

My response will include comparisons — based on facts — between traditional forms of bulk electrical generation and the emerging cadre of renewable energy technologies, particularly large wind turbines. This was done to enable you, the reviewer, to make an fair analysis.

The Environment is the legacy we leave to our children. With that in mind, let's begin.

### **Introduction and some personal thoughts**

It is important to note that all power generation has some impact on the environment, regardless of whether it is generated from the combustion of fossil fuels or nuclear fission or from renewable sources such as wind, solar, hydro, various forms of biomass, or ocean energy conversion devices.

Energy is fundamental to our society—it powers our homes, businesses, and industries. **However, the process of generating electricity is our nation's single largest industrial source of air pollution.** This means that the energy decisions we make every day can encourage the development of new power sources, save natural resources, and help ensure that the quality of our environment is preserved.

In the United States, electricity is generated in many different ways, with a wide variation in environmental impact. **Traditional methods of electricity production are responsible for a number of major air quality problems and pose numerous economic risks, affecting both human health and the health of our environment.**

When historians speak about our time centuries from now, they will draw people's attention to the very short Age of Fossil Fuels, from 1850 to 2050, when humans consumed most of the world's supply of coal, oil and gas.

That much is certain. What we don't know is how they will describe the end of the age, because that's still up to us.

Will they write that due to their ecological ignorance and their obsessions with trivia and political power, the people consumed so much fossil fuel that they overheated the Earth's atmosphere, melted the ice-sheets, raised the sea level by 20 meters, flooded the low-lying lands, and disrupted so many ecosystems that they caused the a sixth great extinction, and that it took 1,000 years for the climate to establish a new equilibrium.

Or will they write that due to an incredible mobilization of effort, made possible by the determination and love of millions of ordinary people for their planet, there was a great non-violent struggle for power in which the political leaders were forced to take a back seat while the ordinary people organized a transition into the permanent, sustainable forms of energy which has been used by human civilizations ever since.

We have really no concept of what was involved to create the energy we use so freely. Take the natural gas which we use to heat our homes and cook our meals. It was formed from the remains of plants and sea creatures which sank to the ocean floor over a period of 200 million years. We are currently on track to consume it all in 200 years, a million times faster than it was generated.

Put another way, **it took nature 10 years to lay down the energy which you use to cook an omelet in five minutes.**

So what would it look like if humanity did the intelligent thing, and averted the crisis that is rolling towards us like a tidal wave in Southeast Asia. Can we avert the wave, or will the wave pound into us like thunder, and drown us. Our decisions on this matter will tell us.

With that thought in mind I believe it is appropriate to go through our short 200 year dance with energy generation.

### **A short history of our energy generation**

#### **The Early Years: Wood, Water and Wind**

The history of America is closely tied to our history of energy use. The availability of cheap and flexible sources of energy was an important factor in the transformation of America from a predominantly agricultural nation in the 1800's to an industrial giant a century later.

Until the 1800's America depended on wood, water, and wind for its energy needs. Wood was practically free due to its plentiful supply. Wood was the perfect energy source since it was readily available and as close as most backyards. Wood was used for cooking and heating homes. It was also used for making household necessities like candles and soap. Blacksmiths relied upon wood to heat their forges, where they made metal tools. When railroads and steamboats were first developed, it was wood that powered them. Wood was the fuel source for the first iron blast furnaces and for other industrial processes requiring heat.

***Water:*** Water power, provided by huge water wheels, was plentiful throughout America. Water turbines became more plentiful and more efficient throughout the 1800s. People also transported themselves and their goods downstream on rivers.

***Wind:*** Windmills dotted the eastern seaboard and accompanied the westward expansion. Windmills were used to grind flour, pump water, and saw wood. Wind was used to move sailboats. Windmills supplied the power to pump water to our homes and business.

#### **The Coal Era**

3037

After 1850, wood, water, and wind began to be replaced with another energy source, coal. While coal was always plentiful in America, people did not use it because they did not need it. They had more than enough energy from wood. However, as wood supplies began to become depleted, around the 1850's, wood became more expensive. Industries were growing and therefore required more energy each year. Coal was found to be a cheaper, more convenient fuel source both for railway locomotives and for urban buildings and homes. Coal was easily available inexpensive, and could be stored easily. It takes a smaller size pile of coal than wood to operate a train or to heat a home. By the mid 1880's coal had become the nation's chief energy source.

**Industry:** The development of the steel industry in the late 1860's played a big role in making coal the number one fuel in America. More importantly, the widespread use of the steam engine created a much greater demand for coal. Although wood continued to be widely used in the residential sector, coal almost completely took over industry and transportation. People discovered that coal was cheaper than wood to use in running steam engines than was wood. One-half ton of coal would do the same work as over two tons of wood at half the cost. Railroads were converting from wood to coal.

Grain and saw mills changed to steam for power. This allowed them to be powered on a more regular basis during all seasons of the year. The steam driven threshing machines allowed farmers to harvest larger amounts of grain. This, in turn, led to an increased need for mills.

### **The Age of Oil**

After World War I ended in 1918, coal use began to decline as oil became more widely used. At first, oil was refined and used exclusively for kerosene lanterns and to some extent for lubrication. Even though oil was first discovered in America in 1859, it did not become a major energy source for almost 50 years.

Oil and natural gas are both 20th century fuels. Oil rose from barely measurable use around 1900 to a quarter share of total U.S. energy consumption in 1930 and almost half in 1970. Natural gas use quadrupled between 1930 and 1970.

After 1900, the use of electric power was on the rise. Coal was used to run the turbines that produced electricity. Electricity was first wired from power stations into homes, offices, and factories in the 1880's, in big cities such as New York, London, and Paris. Its first major use was for lighting. In 1882, Thomas Edison's factories made 100,000 light bulbs, but because it took years to lay cables and establish electricity locally, electric light was not widely available from coast to coast until the 1930's.

As soon as electricity was available in houses, people began to think up new uses for it. The early 20th century saw the invention and design of "labor-saving" appliances to make domestic life easier. When electric motors came into wide use in the 1900s, electricity could be converted into movement. This made it possible for the range of appliances to

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grow to include small heaters, food blenders, and even hair dryers. However the large appliances, like vacuum cleaners, were still found only in the most affluent homes.

By the 1920's a few farm women were using gasoline powered washing machines.

It was 1939 before electrical transmission lines reached most farms in the heartland of the country, bringing us to the status we enjoy today with electricity available throughout the country.

Electricity didn't have an easy beginning. Many people were thrilled with all the new inventions, but some people were afraid of electricity and wary of bringing it into their homes. **Many social critics of the day saw electricity as an end to a simpler, less hectic way of life.** Poets commented that electric lights were less romantic than gas lights. Perhaps they were right, but the new electric age could not be dimmed.

In 1920, about two percent of all the energy in the United States was used to make electricity. Today, about 39 percent of all energy is used to make electricity. As we continue to use technology powered by electricity, that figure will continue to rise.

Coal is still the fuel of choice and currently supplies in excess of 60 percent of our electric generation.

**Moving intelligently into the future requires taking a close look at the past. By examining energy conversion changes over time, it is apparent that our generation of electricity has evolved in the short space of less than 200 years.**

### **What is the Public Trust and was it Presented in the DEIS**

The public trust doctrine offers a principled way for regulators and the courts to set limits on the use and alteration of public resources.

The doctrine is an independent basis to guide decision-makers who must rule on specific cases.

It is, at its best, a construct that presents neutral, reasoned criteria for making tough decisions. The doctrine complements state constitutions, and state and federal statutes.

It is powerful. It can override statutes when they conflict with public trust purposes. The doctrine can provide relief for the decision-maker; it has been crafted by decision-makers. It changes the regulators' job from (a) deciding when should we alter and in many cases destroy natural resources -- perhaps gradually but inevitably and with certainty -- into (b) drawing a fairly firm line as to which resources we must protect.

**That is at the heart of the doctrine: identifying the resources that should be protected over a period of time that spans generations.**

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Courts in every state in the United States recognize that certain natural resources are held by the state and preserved for the public and future generations by the "Public Trust."

These resources include all waters and submerged lands from three nautical miles offshore (this varies a little bit among states, but three miles is generally the limit) to at least the mean high-tide line, and navigable rivers, streams, ponds, and lakes, at least to their respective ordinary high-water marks.

In recent years the reach of the doctrine has extended to the regulation of activities outside the above list of waters to include areas that may affect these resources (for example, non-navigable waterways such as seasonal streams, the diversion of which adversely affects a lake), and by requiring access across privately owned lands to reach public trust lands.

The body of law regarding the public trust, often referred to as the "public trust doctrine," is commonly recognized to have evolved from its ancient Roman origins, through the courts of England, and into the law of many countries. In the United States the law regarding the public trust doctrine has evolved primarily through the state legislatures and courts, as it is the states which own the public trust resources for the benefit of all their citizens.

Massachusetts just went through public trust issues with the Big Dig project, and the construction of the new bridges associated with the project. In addition, their approval of an electric cable from the Cape to Nantucket the last week of December 2004 is also a use of the public trust for a for-profit company.

A state-by-state analysis is required to know what the law is with regard to a specific public resource.

**Several examples of the use of Public Trust Resources are:**

- Cables that carry phone lines or electricity through submerged lands
- Power plants using river, lake or ocean water as a coolant.
- Docks for ships
- Fish farms, whether finfish or shellfish, for profit
- Shipping lanes
- Lighthouses placed in the water
- Bridges and tunnels connecting land masses
- Hydroelectric plants and water impoundment reservoirs
- Sand mining for beach replenishment

The flash point of the evolution of the public trust doctrine is the adversarial processes of

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government. When a private interest or a government agency seeks a controversial use and alteration of a natural resource which is subject to the public trust. Regulatory bodies initially decide the dispute and how the doctrine applies to the particular case. When those governmental decisions are challenged, the courts test the regulatory decisions against the established law in this area. Sometimes new law is created.

Given the potentially devastating and irreversible nature of public trust resource exploitation, and the scientific uncertainty that invariably accompanies any attempt to predict the effects of a proposed public resource use, the burden of proof in public trust cases must reside with the party whose actions threaten the trust resources. This party must demonstrate with a high degree of scientific certainty that its proposed action will not jeopardize the public resources. This demonstration must be made before that action is taken. **This was accomplished with the Cape Wind DEIS.**

The legal standard of proof corresponding with "scientific certainty" is clear and convincing proof. Thus, to prove its case with legal certainty, a party must produce evidence which produces in the decision-maker a firm belief or conviction that the actions will not harm the public resources. This approach clearly favors protection of public resources because no action would be allowed unless it can be shown with scientific and legal certainty that it would not endanger the resources. **This was accomplished in the Cape Wind DEIS.**

The alternative approach, i.e., placing the burden of proof on the party opposing the exploitation of the public resource, logically would inevitably result in the irreparable destruction of the public trust resources in almost every instance. The adversarial party typically lacks the funds necessary to perform the necessary studies to demonstrate with requisite certainty that the public trust resources would be damaged by the opposing party's actions.

Scientific "certainty" is rare in predicting environmental damage. Thus, the party opposing the use or alteration of the public resource could rarely prove its case, resulting in continued and unhampered use of the public trust resources until harm actually occurs. At that point, even if the party can prove with scientific certainty the damage and its cause, the party would still need to demonstrate future harm. Thus, placing the burden of proof on the party seeking to safeguard the public resources would in effect mean that resources can only be protected after harm has already occurred. At that point, the damage may be irreversible.

The difficulty, at times the impossibility, of demonstrating that a particular use or alteration will harm the public trust resources means that the allocation of the burden of proof alone may control what the result will be. In most cases, the party with fewer resources will fail in their attempt to demonstrate future harm.

The precautionary principle instructs that the burden of proof should favor protecting those resources. Applying the precautionary principle to evaluate any activities that may impact the public trust resources builds caution and prudence into the process.

**Was the issue of the Public Trust addressed in the Cape Wind DEIS? Absolutely.** It must be understood the public trust 120 years ago did not have provisions for electric cable and, if it was not modified, the Islands off Cape Cod would not have electric power, phone lines and even Cable TV. Brayton Point Power plant, which supplies in excess of 1200 megawatts of power to Massachusetts, uses a public trust resource every day: **One billion gallons per day of cooling water from Mount Hope Bay, for which it pays no fee.**

Fishermen use the public trust resource in order to make their living; shellfish farms use the public trust resource to grow their crop. Boat Captains and Marinas use the public trust for the docking and the mooring of their boats. Offshore oil and gas leases are another example of the use of the public trust. Niagara Falls is a public trust resource that has been used to generate electricity for the last 100 plus years.

**So, after a short review, this request for the placement of wind turbines in Nantucket Sount is totally compliant with established and traditional uses of the public trust.**

### **Electricity from Coal**

When power plants burn coal, they produce sulfur dioxide that forms fine particles that are extremely harmful to human health. These particles can be inhaled deeply into the lungs where they lodge, causing severe damage, including asthma attacks, respiratory illness, and premature death. Sulfur dioxide from power plants is the leading cause of fine particle soot in the eastern half of the U.S.

Coal is a fossil fuel formed from the decomposition of organic materials that have been subjected to geologic heat and pressure over millions of years. Coal is considered a nonrenewable resource because it cannot be replenished on a human time frame.

Although power plants are regulated by both federal and state laws to protect human health and the environment, there is a wide variation of environmental impacts associated with coal- power generation technologies.

### **Environmental Impacts associated with Coal the number one Electrical Generating Fuel**

#### **Emissions**

When coal is burned, carbon dioxide, sulfur dioxide, nitrogen oxides, and mercury compounds are released. For that reason, all coal-fired boilers are required to have several control devices to reduce the amount of emissions that are released from burning the coal.

The average emission rates in the United States from coal-fired generation are: 2,249 lbs/MW of carbon dioxide, 13 lbs/MWh of sulfur dioxide, and 6 lbs/MWh of nitrogen oxides

Mining, cleaning, and transporting coal to the power plant generate additional emissions. For example, methane, a greenhouse gas that is trapped in the coal, escapes during these processes.

Traditional power plants operating today are the number one industrial source of several major air pollutants, including:

- Sulfur dioxide—a pollutant linked to acid rain, haze pollution in parks, and respiratory disease and death
  - Nitrogen oxides—a cause of ozone smog and asthma attacks
  - Mercury—a pollutant linked to developmental problems in children
  - Carbon dioxide—a major cause of global warming

“Carbon dioxide is probably the single most important agent contributing to climate changes today.” The [global climate] changes observed over the last several decades are likely because of human activities, for the most part.”

“Since the Industrial Revolution, atmospheric concentrations of CO<sub>2</sub> have risen about 28 percent, principally because of fossil fuel combustion, which accounted for almost 98 percent of total U.S. CO<sub>2</sub> emissions in 1998.” “Carbon dioxide is more abundant in the Earth’s atmosphere now than at any time during the past 400,000 years.”

Because of the age of the current fleet of power plants **(two-thirds were built before 1970)**, there is a great opportunity for new, more efficient technologies to be deployed as existing plants are retired and replaced.

Power plants are responsible for approximately 40 percent of all U.S. emissions of carbon dioxide, the pollutant most closely linked to global warming.

### **Water Resource Use**

Large quantities of water are frequently needed to remove impurities from coal at the mine. In addition, coal-fired power plants use large quantities of water both for producing steam and for cooling. When coal-fired power plants remove water from a lake or river, fish and other aquatic life can be affected, as well as animals and people who depend on these aquatic resources.

### **Water Discharges**

Pollutants build up in the water used in the power plant boiler and cooling system. If the water used in the power plant is discharged to a lake or river, the pollutants in the water can harm fish and plants. Further, if rain falls on coal stored in piles outside the power plant, the water that runs off these piles can flush heavy metals from the coal, such as arsenic and lead, into nearby bodies of water. Brayton Point uses 1 billion gallons a day of water discharges, and has been permitted

### **Marine and freshwater Impacts**

Brayton Point is responsible for the loss of 251 million Winter Flounder, 1 billion Bay Anchovy, 375 million windowpane flounder, and 3.5 billion Tautog, according to their permit filed with the EPA

The destruction of life in the oceans has progressed farther than anyone had anticipated. The causes are overfishing and pollution

### **Solid Waste Generation**

The burning of coal creates solid waste, called ash, which is composed primarily of metal oxides and alkali. On average, the ash content of coal is 10 percent. Solid waste is also created at coal mines when coal is cleaned and at power plants when air pollutants are removed from the stack gas. Much of this waste is deposited in landfills and abandoned mines, although some amounts are now being recycled into useful products, such as cement and building materials.

### **Land Resource Use**

Soil at coal-fired power plant sites can become contaminated with various pollutants from the coal and take a long time to recover, even after the power plant closes down. Coal mining and processing also have environmental impacts on land. Surface mining disturbs larger areas than underground mining.

### **Acid Rain**

When sulfur dioxide and nitrogen oxides are released into the atmosphere, they form acids that return to earth in rainfall. "Acid rain" accumulates in lakes and seeps into soils, causing wide-ranging damage. In addition to killing many fish species and harming others, it contributes to death and disease among several species of trees. Power plants emit about 67 percent of all sulfur dioxide and 25 percent of all nitrogen oxides in the U.S., making them the largest single source of acid rain.

### **Air pollution**

Power plants emit dozens of hazardous air pollutants. EPA has identified separate hazardous compounds and chemicals in the flue gas emitted from power plant smokestacks. Of these, 55 are known neurotoxins or developmental toxins (i.e., they affect the development of a child's brain, nervous system, or body). In addition, 24 are also known, probable, or possible human carcinogens.

Taken together, emissions of these 67 hazardous compounds make power plants the nation's leading source of toxic air pollution. In 1999, according to EPA's Toxics Release Inventory database, utility smokestacks emitted 842 million pounds of chemicals into the air. This is 40 percent of the nation's total toxic air pollution.

When power plants burn coal, they produce sulfur dioxide that forms fine particles that are extremely harmful to human health. These particles can be inhaled deeply into the lungs where they lodge, causing severe damage, including asthma attacks, respiratory illness and premature death. Sulfur dioxide from power plants is the leading cause of fine particle soot in the eastern half of the U.S.

### **Ozone Smog**

Power plants produce nitrogen oxides that are transformed into ozone smog on hot summer days, resulting in "code red" conditions in cities and towns throughout the U.S. Ozone smog causes respiratory damage ranging from temporary discomfort to asthma attacks and long-term, permanent lung damage. Coal-burning power plants produce more nitrogen oxide pollution than any other industrial source.

## **Global Warming**

In the United States, higher temperatures will have a number of negative impacts, primarily declining air and water quality and accompanying harm to public health.

Natural ecosystems throughout the United States appear to be the most vulnerable to the harmful effects of climate change, as there is often little that can be done to help them adapt to the projected speed and amount of change:

- Some ecosystems that are already constrained by climate, such as alpine meadows in the Rocky Mountains, are likely to face extreme stress; in some places they will disappear entirely.
- There is a potential for the forests of the Southeast to break up into a mosaic of forests, savannas, and grasslands from the stress of climate change.
- Climate scenarios suggest likely changes in the species composition of the Northeast forests, notably the loss of sugar maples.

## **Health Impacts Near Traditional Power Plants**

Scientists have been able to demonstrate a link between air pollution from particular power plants and serious health effects, including premature death. For example, researchers at the Harvard School of Public Health found that air pollution from a group of power plants in the Chicago area was responsible for approximately 400 deaths per year. The study found that cleaning up emissions from these plants would save approximately 300 lives per year. This important research was reported in a publication of the Harvard Center for Risk Analysis under its former director, John Graham.

Recent studies by researchers at the Harvard School of Public Health have established that people who live within a 30-mile radius of certain large, coal-fired power generators are three to four times more likely to die from air pollution than people who live 30 miles or more from these plants.

Recent studies show that significant reductions in major air pollutants from power plants—specifically sulfur dioxide, nitrogen oxides, carbon dioxide, and mercury—will lead to major improvements in public health and environmental quality.

## **Health Effects of Mercury on Children**

Of all the chemicals classified by EPA as “hazardous,” mercury has received the most attention from health professionals and policy makers. Commonly found in coal, mercury is released to the environment when coal is burned to produce electricity. Mercury emitted to the air is eventually deposited on land and in waterways, where it accumulates over time, persisting in the environment for 100 years or more. Coal-fired power plants are the source of 33 percent of all mercury air pollution, more than any other industry.

In 2000, mercury contamination forced 41 states to issue a total of 2,242 fish advisories, warning anglers not to eat certain fish and to limit their consumption of others. In the past seven years, advisories for mercury have increased by 149 percent. The number of states issuing warnings for mercury has also risen steadily from 27 in 1993 to 41 states in 2000

People are exposed to mercury primarily by eating fish contaminated with methyl mercury formed when airborne mercury interacts with microorganisms in water. Fish absorb and store methyl mercury in their fatty tissue.

Consumption of mercury-contaminated fish poses the greatest hazard to humans during prenatal development. Methyl mercury interferes with the normal development of the nervous system. Exposed children may exhibit poor performance on tests measuring attention span, fine motor function, language, visual-spatial abilities (e.g., drawing), and memory. **According to the National Academy of Sciences, children exposed to mercury through their mothers will likely have difficulty keeping up in school and might require remedial classes or special education.**

A recent survey by the Centers for Disease Control and Prevention found that 10 percent of women of childbearing age who were tested for mercury exposure measured above the EPA's safe level. Nationally, 6 million women of childbearing age have elevated levels of mercury from eating contaminated fish, and approximately **390,000** newborns are at risk of neurological effects from exposure in utero to high levels of this chemical.

### **Environmental Impacts associated with Wind as an Electrical Generating Fuel**

#### **A Little Science of Wind Energy**

Wind is created because the sun heats the Earth unevenly, due to the seasons, cloud cover and the differences in heat absorption by the oceans and land. This uneven heating, in addition to the Earth's rotation, causes warmer air to move toward cooler air. This movement of air is wind.

Wind turbines use two or three long blades to collect the energy in the wind and convert it to electricity. The blades rotate when the wind blows over them. The energy of motion contained in the wind is then converted into electricity as the rotating turbine blades turn a generator. To create enough electricity for a town or city, several wind turbine towers need to be placed together in groups or rows to create a "wind farm."

**Reserves** The availability of wind power varies across the United States. Areas with the best wind availability include portions of the following states: North Dakota, Texas, Kansas, South Dakota, Montana, Nebraska, Wyoming, Oklahoma, Minnesota, Iowa, Colorado, New Mexico, California, Wisconsin, and Oregon, and offshore, particularly along the East Coast of the United States.

### **Environmental Impacts associated with Wind-Generated Electricity**

Wind power plants, like all other energy technologies, have environmental impacts.

Below, I review them in the same order as I did above with traditional power plants.

The local environmental impacts that can result from wind power development include

#### **Water Resource Use**

Water use can be a significant issue in energy production, particularly in areas where water is scarce, as conventional power plants use large amounts of water for the condensing portion of the thermodynamic cycle. For coal plants, water is also used to clean and process fuel.

According to the California Energy Commission (cited in Paul Gipe's *Wind Energy Comes of Age*, John Wiley & Sons, 1995), conventional power plants consume the following amounts of water (through evaporative loss, not including water that is recaptured and treated for further use):

#### **WATER CONSUMPTION--CONVENTIONAL POWER PLANTS**

<b>Technology</b>	<b>gallons/kWh</b>	<b>liters/kWh</b>
Nuclear	0.62	2.30
Coal	0.49	1.90
Oil	0.43	1.60
Combined Cycle Gas Turbine	0.25	0.95

#### **WATER CONSUMPTION--WIND AND SOLAR**

<b>Technology</b>	<b>gallons/kWh</b>	<b>liters/kWh</b>
Wind	0.001	0.004
Solar	0.030	0.110

Wind turbines in areas with little rainfall may require the use of a small amount of water. If rainfall is not sufficient to keep the turbine blades clean, water is used to clean dirt and insects off the blades so that turbine performance is not reduced.

Wind therefore uses less than 1/600 as much water per unit of electricity produced as does nuclear, approximately 1/500 as much as coal, and approximately 1/25 as much as natural gas, the most popular choice for new power plants.

### **Emissions**

Emissions associated with generating electricity from wind technology are negligible because no fuels are combusted.

### **Water Discharges**

Small amounts of water are used to clean wind turbine rotor blades in arid climates (where rainfall does not keep the blades clean). The purpose of blade cleaning is to eliminate dust and insect buildup, which otherwise deforms the shape of the airfoil and degrades performance.

### **Marine and freshwater Impacts**

There are three significant stages of a wind farm from the point of view of marine life: construction, operation and decommissioning. Construction and decommissioning have the potential to generate the most amount of disturbance, and the wind industry, as well as several marine conservation groups, is currently investigating these impacts on marine life.

However, it is important that such impacts be considered in the context of other marine activities such as fishing, shipping, oil and gas extraction, etc. Also, it should be noted that the duration of the construction and decommissioning will be about 6 months only. For the 20-year operational period there are no known impacts on marine life.

It has been suggested that the noise from wind turbines will travel underwater and could disturb sea life. But studies carried out on the impact of noise from existing offshore turbines note that the noise is very low frequency, and many species are actually unable to hear it.

As with any other local impact issues, these concerns will be addressed while a wind farm project is going through the permitting process.

### **Solid Waste Generation**

Wind technologies do not produce any substantial amount of solid waste while creating electricity.

### **Land Resource Use**

Wind turbines generally require the use of land, although they may also be sited offshore. Land around wind turbines can be used for other purposes, such as the grazing of cattle or farming.

**Acid Rain**

In 1997, U.S. power plants emitted 70 percent of the sulfur dioxide, 34 percent of carbon dioxide, 33 percent of nitrogen oxides, 28 percent of particulate matter and 23 percent of toxic heavy metals released into our nation's environment, mostly the air. These figures are currently increasing in spite of efforts to roll back air pollution through the federal Clean Air Act.

Sulfur dioxide and nitrogen oxides cause acid rain.

Acid rain harms forests and the wildlife they support. Many lakes in the U.S. Northeast have become biologically dead because of this form of pollution. Acid rain also corrodes buildings and economic infrastructure such as bridges. Nitrogen oxides (which are released by otherwise clean-burning natural gas) are also a primary component of smog.

Wind's pollution-free electricity can help reduce the environmental damage caused by power generation in the U.S. and worldwide.

**Air pollution**

Wind farms do not contribute to air pollution during their operating life. The construction of the equipment will contribute to air pollution but no different than any other manufacturing plant. This is only a one time contribution.

**Ozone Smog:**

Wind farms do not contribute to ozone smog.

**Global Warming**

Wind power is a clean, renewable form of energy, which during operation produces no carbon dioxide. While some emissions of these gases will take place during the design, manufacture, transport and erection of wind turbines, enough electricity is generated from a wind farm within a few months to totally compensate for these emissions. When wind farms are dismantled (usually after 20-25 years of operation) they leave no legacy of pollution for future generation.

**Health Impacts Near Wind Farm Power Plants**

Because there are no emissions there are no health impacts to speak of.

### **Health Effects of Mercury on Children**

Mercury is not created during the generation of electricity so there are no effects.

### **Erosion**

Erosion can occur with land-based and offshore wind farms, but can be prevented through proper installation and landscaping techniques. Erosion can be a concern in certain habitats such as the desert, where a hard-packed soil surface must be disturbed to install wind turbines. Erosion has also been raised as a concern in the eastern U.S., where wind farms typically must be installed on mountain ridgelines. However, standard engineering practices used by ski areas on the same kind of terrain are adequate to deal with any erosion issues that might be raised by construction of a wind farm and its service road.

### **Coastal Erosion**

Any proposed wind farm project will involve a full investigation of wave and coastal processes prior to construction. However, the turbine structures and distance offshore are such that it is very unlikely they would significantly affect the seabed or wave patterns. There is no evidence from the Danish experience with offshore wind farms of any detrimental effects on coastal processes.

### **Bird and Bat Kills**

Birds and bats occasionally collide with wind turbines, as they do with other tall structures such as buildings. Avian deaths have become a concern at Altamont Pass in California, which is an area of extensive wind development and also high year-round raptor use. Detailed studies and monitoring following construction, at other wind development areas indicate that this is a site-specific issue that will not be a problem at most potential wind sites. Also, wind's overall impact on birds is low compared with other human-related sources of avian mortality.

No matter how extensively wind is developed in the future, bird deaths from wind energy are unlikely to ever reach as high as 1 percent of those from other human-related sources such as hunters, house cats, buildings, and autos. (House cats, for example, are believed to kill 1 billion birds annually in the U.S. alone.).

As a cause of avian deaths, wind turbines are, quite literally, a drop in the bucket.

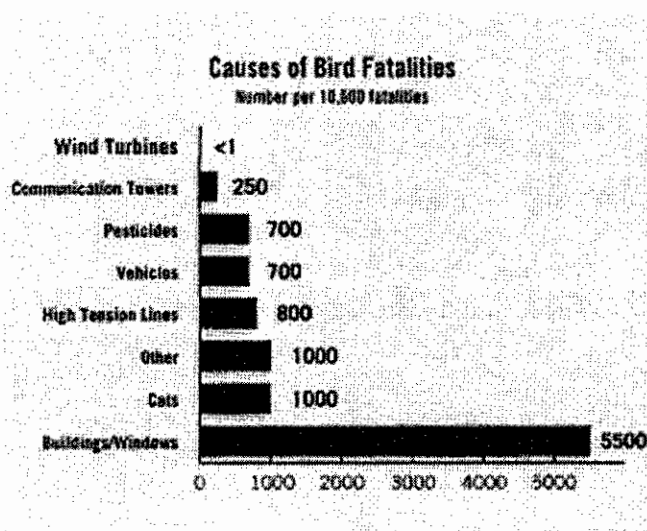
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Still, areas that are commonly used by threatened or endangered bird species should be regarded as unsuitable for wind development. The wind industry is working with environmental groups, federal regulators, and other interested parties to develop methods of measuring and mitigating wind energy's effect on birds.

Wind energy can also negatively impact birds and other wildlife by fragmenting habitat, both through installation and operation of wind turbines themselves and through the roads and power lines that may be needed. This has been raised as an issue in areas with unbroken stretches of prairie grasslands or of forests. More research is needed to better understand these impacts.

Bat collisions at wind plants generally tend to be low in number and to involve common species which are quite numerous. Human disturbance of hibernating bats in caves is a far greater threat to species of concern.

At the same time, a surprisingly high number of bat kills at a new wind plant in West Virginia in the fall of 2003 has raised concerns. The problem of bat mortality at that site is currently under investigation, but seems to be related to the wind turbines at the end of the row that were close to a lighted utility building.



## Visual impacts

A wind farm will always be noticeable but its visual impact can be minimized through careful design of a wind power plant. Using turbines of the same size and type and spacing them uniformly generally results in a wind plant that satisfies most aesthetic concerns.

## Noise

Noise was an issue with some early wind turbine designs, but it has been largely eliminated as a problem through improved engineering. Aerodynamic noise has been reduced by changing the thickness of the blades' trailing edges and by making machines "upwind" rather than "downwind" so that the wind hits the rotor blades first, then the tower.

A small amount of noise is generated by the mechanical components of the turbine. To put this into perspective, a wind turbine 1000 feet away is no noisier than the reading room of a library.

### **Shadow Flicker**

Shadow Flicker is occasionally raised as an issue by close neighbors of a land based wind farm project. A wind turbine's moving blades can cast a moving shadow on a nearby residence, depending on the time of the year (which determines how low the sun is in the sky) and time of day. It is possible to calculate very precisely whether a flickering shadow will in fact fall on a given location near a wind farm, and how many hours in a year it will do so. Therefore, it should be easy to determine whether this is a potential problem. Normally, it should not be a problem in Nantucket Sound as most boaters are moving and not stationary.

### **Interference with electromagnetic transmissions such as radio, television, or cell-phone signals**

Large wind turbines, such as those typically installed at wind farms, can interfere with radio or TV signals if a turbine is in the "line of sight" between a receiver and the signal source. This problem can usually be easily dealt with by improving the receiver's antenna or installing relays to transmit the signal around the wind farm. Use of satellite or cable television is also an option.

### **Tourism**

There is no evidence that wind farms reduce tourism and considerable evidence to the contrary. For example, in late 2002, a survey of 300 tourists in the Argyll region of Scotland, noted for its scenic beauty, found that 91 percent said the presence of new wind farms "would make no difference in whether they would return." Similar surveys of tourists in Vermont and Australia have produced similar results.

Many rural areas in the U.S. have noted increases in tourism after wind farms have been installed, as have scenic areas in Denmark, the world's leader in percentage of national electricity supplied by wind. Other telling indicators: local governments frequently decide to install information stands and signs near wind farms for tourists; wind farms are regularly featured on post cards, magazine covers and Web pages.

**Radar**

Wind farms will interfere with radar. Radar is basically designed to filter out stationary objects and display moving ones, and moving wind turbine blades create radar echoes.

It is possible to modify a radar installation to eliminate this problem, according to a consulting firm that has studied it for the British government ([http://www.bwea.com/aviation/ams\\_report.html](http://www.bwea.com/aviation/ams_report.html)). According to the study: "This study concludes that radars can be modified to ensure that air safety is maintained in the presence of wind turbine farms. Individual circumstances will dictate the degree and cost of modification required; some installations may require no change at all while others may require significant modification."

If a wind project is proposed near an airport or military airfield, this issue will likely require further technical investigation. The interference is generally limited to objects (airplanes) that are physically shadowed by the turbines (that is, very low-flying aircraft), so the further the turbines are from an airfield and the lower their altitude, the less interference should occur.

**Shipping and Boating**

Developers intentionally site wind turbines outside of established shipping lanes, thereby avoiding conflicts with routine traffic. Should a ship inadvertently go off course, its radar will readily detect the wind turbines, which are excellent radar reflectors. Wind turbines are also equipped with warning devices to alert ships in foul weather.

The U.S. Coast Guard authorizes wind turbine locations for navigational concerns and determines the markings, lights, and fog signals needed

**Fishing**

Given the relatively small area of seabed that is required, there is no evidence to suggest that total fish catch will decline as a result of wind farm developments; if anything the opposite is true. Fish stocks have been in decline for many years due to overfishing. Many environmental groups believe that wind farms will provide welcome sanctuary for fish spawning as well as refuge from intensive fisheries activity.

**Comparisons of traditional power generation and wind farm power generation**

Now that I have laid out the major associated environmental impacts associated with both types of generation, it is time to compare them side by side. As I stated at the beginning of my comment, this is about facts, not emotion.

### **Emissions, Air Pollution, Ozone Smog, Water Usage, Acid Rain and Health Impacts**

#### **Coal**

Particulate matter is of growing concern because of its impacts on health. Its presence in the air along with other pollutants has contributed to make asthma one of the fastest growing childhood ailments in industrial and developing countries alike, and it has also recently been linked to lung cancer. Similarly, urban smog has been linked to low birth weight, premature births, stillbirths and infant deaths.

In the United States, the research has documented ill effects on infants even in cities with modern pollution controls.

Toxic heavy metals accumulate in the environment and up the biological food chain. A number of states have banned or limited the eating of fish from fresh-water lakes because of concerns about mercury, a toxic heavy metal, accumulating in their tissue.

Development of just 10 percent of the wind potential in the 10 windiest U.S. states would provide more than enough energy to displace emissions from the nation's coal-fired power plants and eliminate the nation's major source of acid rain; reduce total U.S. emissions of CO<sub>2</sub> by almost a third; and help contain the spread of asthma and other respiratory diseases aggravated or caused by air pollution in this country.

If wind energy were to provide 20 percent of the nation's electricity -- a very realistic and achievable goal with the current technology -- it could displace more than a third of the emissions from coal-fired power plants, or all of the radioactive waste and water pollution from nuclear power plants. In 2004, the American Wind Energy Association estimated that wind plants in the U.S. will generate 16 billion kilowatt-hours. If, instead, the average utility fuel mix were used to generate that much electricity, 21 billion pounds (10.6 million tons) of carbon dioxide, 56,000 tons of sulfur dioxide (150 tons per day), and 33,000 tons of nitrogen oxides (92 tons per day) would be released into the atmosphere.

The comparative environmental impacts of various options for producing electricity have been extensively studied by the European Union in a 10-year effort called the "ExternE" ("external" or non-economic costs of energy). The results of that study are available at <http://www.externe.info/externpr.pdf>. As with every other study of non-economic costs that has been conducted, the ExternE study found wind energy's collateral costs to be among the lowest, far below those of fossil fuels. The highest non-economic cost for wind in any European country, for example, was 0.25 eurocents per kilowatt-hour, while

the lowest cost for external impacts from coal was 2-4 eurocents/kWh (eight to 16 times as much).

Scientists believe that current cuts in sulfur emissions under the Acid Rain Program will be insufficient to protect surface water and forest soils of the northeastern U.S.

**Recent work by scientists with the Hubbard Brook Research Foundation found that sulfur dioxide emissions from power plants would have to be reduced an additional 80 percent before biological recovery could begin by 2050 in the northeastern U.S.**

Over the past half-century, America's national parks, wilderness areas, and wildlife refuges have become shrouded by haze from air pollution. Today, it is rare to experience clear views of distant vistas in these scenic places. Although haze may appear to occur naturally as a result of heat and humidity, scientists have determined that the haze in our parks is actually caused by the same sulfate particles from power plants that form acid rain and are associated with serious health impacts. According to EPA, power plants are responsible for over two-thirds of the sulfur dioxide that forms the sulfate particles causing haze in the U.S.

In addition to reducing visibility, air pollution from power plants costs Americans billions of dollars each year. Tourists to national parks and wilderness areas consistently rate visibility and clear scenic vistas as one of the most important reasons for visiting. In 1998, there were 287 million visitors to national parks, who spent approximately \$35 billion on travel-related purchases and who helped generate approximately half a million jobs. Studies have shown, however, that when visibility in parks declines, fewer people visit, and they spend less time. Recent calculations have found that the economic benefit of eliminating haze in park areas could be over \$4.3 billion dollars a year.

Acid rain causes a swath of damage from Maine to the Carolinas:

- Maine: Acid rain has contributed to the decline of Atlantic salmon, with the greatest impact on young fish.
- New York and New England: Forty-one percent of lakes in New York's Adirondacks and 15 percent of lakes in New England are either chronically or periodically acidic. Nearly 25 percent of surveyed lakes in the Adirondacks do not support any fish, and many others have less aquatic life and reduced species diversity when compared with less acidic lakes. Acid rain is also the major cause of red spruce death in New York.
- Pennsylvania: Acid rain has reduced fish diversity in northwest Pennsylvania and is associated with the deterioration and death of sugar maples and red oaks.
- Virginia: Streams in Shenandoah National Park frequently receive rainfall that is as acidic as lemon juice. American Rivers, for example, placed Paine Run River on its "Most Endangered" list in 2001 because, without further cuts in air pollution, it will become too acidic to sustain brook trout and other aquatic life. Overall, 30 percent of trout streams in Virginia are acidic, making them either marginal or unsuitable for brook trout.

- North Carolina and Tennessee: Many high-elevation streams in the Great Smoky Mountains are acidic. Acid rain is also making forest soil chemically imbalanced, endangering high-altitude forests

The Environmental Protection Agency estimates that over 120 million Americans, 43 percent of the population, live in areas that currently have unhealthy air. The electric industry ranks at or near the top of all U.S. sources of air pollution.

- Utilities emit more carbon dioxide, sulfur dioxide, and mercury than any other source.
- Nitrogen oxide emissions from power plants are second only to the combined emissions of every car and truck in the United States—approximately 200 million vehicles.

**The bulk of the electric industry's pollution comes from aging coal-fired power plants. While a little more than half the electric power produced in the United States is generated by coal, these plants are responsible for more than 90 percent of the industry's pollution**

Despite the seriousness of the problem, carbon dioxide emissions are on a steady upward trend. The Department of Energy predicts: "Carbon dioxide emissions from energy use are projected to increase at an average rate of 1.5 percent per year, from 1,562 million metric tons of carbon equivalent in 2000 to 2,088 million metric tons in 2020. Projected emissions in 2020 are higher by 47 million metric tons carbon equivalent than in 2001, due to higher projected energy demand in the commercial and transportation sectors and more coal-fired electricity generation than in 2001."

Scientific studies show that there are serious and wide-ranging health consequences from exposure to sulfur dioxide and nitrogen oxides. Unfortunately, millions of Americans regularly breathe unhealthy levels of these contaminants. **Power plant emissions of sulfur dioxide and nitrogen oxides alone are responsible each year for an estimated:**

- **30,100 deaths in the United States**
- **20,100 hospitalizations in the United States**
- **603,000 asthma attacks in the United States**
- **5,130,000 lost workdays due to illness in the United States**

Other recent research has shown that ozone caused by nitrogen oxides from power plants and other sources not only triggers asthma attacks but may also contribute to the onset of asthma in healthy children. A new study by the California State Air Resources Board and the University of Southern California points strongly to ozone as a cause in the development of asthma in young people who did not previously have the disease.

Researchers found that children living in communities with high ozone levels who played three or more sports developed asthma at a rate three times higher than those in low

ozone areas. Because participation in very physical sports can result in a child drawing up to 17 times the “normal” amount of air into the lungs, young athletes are more likely to develop asthma.

Death due to fine particle pollution from power plants, most frequently affecting the elderly, follows days when pollution levels are high. Research shows that people living in areas with elevated levels of fine particle soot die months or years earlier than they otherwise would. Death rates in these areas usually remain high for weeks or months following periods of increased pollution. Studies also show that cleaning up sulfur dioxide and nitrogen oxide emissions from power plants would have enormous public health benefits each year, including:

- **18,700 lives saved**
- **366,000 fewer asthma attacks**
- **12,200 fewer hospitalizations**
- **\$100 billion savings from reduced illness and death**

During the summer of 2000 (the most recent year for which data are available), the health-based standard for ozone smog was exceeded in 39 states and the District of Columbia. In all, there were more than 4,000 violations of the federal health standard for ozone in 2000. There is a strong correlation between high concentrations of ozone smog and proximity to power plants, especially in the Midwest and Southeast, where roughly 60 percent of the nation’s coal-fired power plants are located. In the Ohio Valley, for example, emissions from coal- and oil-fired power plants account for nearly 50 percent of elevated ozone levels in the valley, enough by themselves to cause violations of the federal health standard for this pollutant. Likewise, the areas with the highest concentrations of fine particle pollution are also the ones with the greatest number of coal-burning plants.

Wind energy system operations do not generate air or water emissions and do not produce hazardous waste. Nor do they deplete natural resources such as coal, oil, or gas, or cause environmental damage through resource extraction and transportation, or require significant amounts of water during operation.

Using more wind energy will reduce health care costs. In 2000, the Harvard School of Public Health looked at the human health effects from **two fossil-fuel-fired power plants in Massachusetts**. It estimated that the air pollution from the plants caused:

- 159 premature deaths**
- 1,710 emergency room visits**
- 43,300 asthma attacks**

Replacing as much of this electricity as possible with wind energy will clearly lower associated health care costs.

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## Coal and Global Warming

Major alterations to natural ecosystems due to climate change could possibly have negative consequences for our economy, which depends in part on the sustained bounty of our nation's lands, waters, and native plant and animal communities.

The seriousness of global warming is becoming clearer. The Third Assessment Report from the Intergovernmental Panel on Climate Change, released in February 2001, found that over the next 100 years, global average temperatures will rise by between 2.4° and 10.4° F (1.4° to 5.8° C).

Global warming has already affected ecosystems. "Examples of observed changes include shrinkage of glaciers, thawing of permafrost, declines of some plant and animal populations and earlier flowering of trees, northward migration of insects, and disruption of egg laying in birds."

Global warming impacts could be irreversible. Irreparable damage is occurring to "glaciers, coral reefs and atolls, mangroves, boreal and tropical forests, polar and alpine ecosystems, prairie wetlands, and remnant native grasslands."

**Meanwhile, concerns are growing over the effects of global warming on humans: Researchers calculate that greenhouse gas emissions over the next 20 years will contribute to some 64,000 premature deaths, 65,000 chronic bronchitis cases, and 37 million lost "person-days" of restricted work and activity in just four large cities in the Western Hemisphere: São Paulo, Brazil; Mexico City; Santiago, Chile; and New York City.**

The National Academy of Sciences was congressionally chartered to advise Congress on scientific and technical questions. Its principal fact-finding arm, the National Research Council, completed the report "Climate Change Science: An Analysis of Some Key Questions" in June 2001 at the request of President Bush. The report characterized the global warming trend over the last 100 years, examined some of the likely consequences in the 21st century, and discussed the extent to which human activity may be responsible for warming. The panel preparing the report consisted of 11 prominent U.S. climate scientists, including a Nobel laureate.

The Intergovernmental Panel on Climate Change (IPCC), established in 1988 by the United Nations, comprises 2,000 climate experts and scientists from around the world who are charged with assessing the technical issues of global warming and providing policy makers with guidance on mitigation options. Presidents Ronald Reagan and George H. W. Bush endorsed the formation of the IPCC to ensure thorough and fair review of emerging scientific findings on climate change.

A report by Harvard University's Center for Health and the Global Environment has found that over the past three decades, global warming has contributed to a variety of weather extremes and pest problems. These have caused greater than normal fluctuations

in farm income, and researchers say this pattern will likely continue. According to the report, "...extreme weather events have caused severe crop damage and have exacted a significant economic toll for U.S. farmers over the past 20 years..." and "...expected temperature increases are likely to hasten the maturation of annual crop plants, thereby reducing their total yield potential, with extremely high temperatures causing more severe losses."

Building on past reports and incorporating the results of new research over the past five years, the IPCC's Third Assessment Report, issued in February 2001, is the most emphatic warning yet about the dangers of global warming. Among the key findings of the National Academy of Sciences and the Intergovernmental Panel on Climate Change are: "Surface temperature measurements recorded daily at hundreds of locations for more than 100 years indicate that the Earth's surface has warmed by about 1 degree Fahrenheit in the past century. This warming has been particularly strong during the last 20 years and has been accompanied by retreating glaciers, thinning arctic ice, [and] rising sea levels" among other effects.

A quote from the National Academy of Sciences: "Globally, it is very likely that the 1990s was the warmest decade and 1998 the warmest year in the instrumental record, since 1861."

A series of quotes from the Intergovernmental Panel on Climate Change:  
"About three-quarters of the anthropogenic emissions of CO<sub>2</sub> to the atmosphere during the past 20 years is due to fossil fuel burning."

Among the most devastating global impacts are increased flooding and outbreaks of diseases in unexpected regions of the world: "Global mean sea level is projected to rise from 0.09 meters (4 inches) to 0.88 meters (34 inches) between 1990 and 2100."

The "number of people who would be flooded by coastal storm surges" each year is from "75 to 200 million people." This will make the cleanup in Southeast Asia currently being mobilized nothing more than preparation on a global scale for what is about to occur.

There will be "an increase in the number of people exposed to vector-borne (e.g., malaria) and water-borne diseases (e.g., cholera) and an increase in heat stress mortality."

"The projected climate change would degrade water quality through higher water temperatures and increased pollutant load from runoff and overflows of waste facilities."

"The vulnerability of human societies and natural systems to climate extremes is demonstrated by the damage, hardship, and death caused by events such as droughts, floods, heat waves, avalanches, and storms."

Overseas, other nations, frustrated with U.S. foot-dragging, are moving ahead on their own to implement global warming agreements. Even though the U.S. has no national

policy for mitigating CO<sub>2</sub> emissions, individual states are acting to cut greenhouse gas emissions.

### **Wind energy and global warming**

Carbon dioxide (CO<sub>2</sub>) is the most important of the greenhouse gases which are changing our climate. According to experts, if we are to avoid dangerous levels of climate change, we must cut our CO<sub>2</sub> emissions by 80-90 per cent by 2050. That means switching to forms of energy generation that do not produce CO<sub>2</sub>.

Given the scale of the CO<sub>2</sub> cuts needed, wind power as the least expensive, most advanced renewable energy technology, and the fastest to build for delivering carbon cuts.

### **Cleaning up Coal Power Plants**

**Recent studies have shown that over 30,000 people die prematurely each year from health problems linked to power plant emissions. To put that number in context, pollution from electric utilities kills more people each year than drunken driving accidents or homicides. By contrast, if older power plants were required to clean up and meet modern standards, more lives could be spared annually than are saved with seatbelt use.**

With so much at stake in the debate over how best to clean up power plant pollution, a number of myths have sprung up that are not consistent with the facts. Contrary to claims by some utilities and, comprehensive reductions in power plant emissions are affordable and achievable, and they will not cause electricity shortages. The demand for new, clean power can be met economically and with existing domestic energy supplies. Indeed, coal will continue to make up a large part of our energy mix under any cleanup scenario. As the facts demonstrate, significant reductions in air pollution from electricity plants can be a win-win solution for the environment and for consumers.

If every coal or natural gas fired plant in the U.S. operated 5 percent more efficiently, greenhouse gas emissions in 2010 could be cut by nearly 40 million metric tons of carbon, approximately 10 percent of the total reduction target the U.S. negotiated under the 1997 Kyoto climate change agreement.

Today, power plants are only about 33 percent efficient. U.S. DOE and the Office of Technology Assessment (OTA) examined potential improvements in power plant efficiency and determined that a 5 percent increase in efficiency could be achieved at little or no cost to utilities because efficiency improvements pay for themselves over time.

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If such efficiencies are feasible and cost-effective, why haven't they been implemented before now? One reason is that electric utilities pass increases in the price of fuel directly on to consumers. This has eliminated the market incentive that drives nearly every other industry to conserve raw materials.

Another reason is more generic to industry as a whole: There is a reluctance to invest in improvements that have more than a two-year payback. While some efficiency measures easily meet this target, others do not. Recently, however, there have been signs that some businesses are beginning to implement energy efficiency improvements with paybacks as long as five years. **With Cape Wind, we have a private company investing their own dollars with a return in excess of five years.**

If we mortgage the health of our children and grandchildren over payback periods dictated by returns on investment, we will all lose in the long run.

### **Wind**

These plants have to be maintained; they do not have to be cleaned up **When wind turbines are removed from land, or the ocean, there are no solid wastes or fuel residues left behind (which can take years to remove or mitigate).**

### **Massachusetts and the Energy Industry**

Massachusetts has established regulations to reduce emissions from the state's six oldest and dirtiest power plants. This legislation represents the first time that generating facilities have been subject to mandatory CO2 reductions. Under the provisions that took effect in June 2001, the plants will no longer be "grandfathered," or allowed to operate with weaker emissions standards than newer plants.

Commonwealth of Massachusetts, Governor Jane Swift, press release, "Swift Unveils Nation's Toughest Power Plant Regulations," April 23, 2001;  
<http://www.state.ma.us/gov/press/pr042301powerplants.htm>.

### **Conclusion and some personal thoughts again**

The visual effect of wind farms is a personal issue, and many criticisms made about wind energy simply reflect attempts by particular groups to discredit the technology, worry local communities, and turn them against proposed projects.

I read where it was mentioned that Massachusetts should put these turbines up in the Berkshires. It was a comment that was not well thought out because in ski areas turbines

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would typically have to be sited very close to operating lifts and trailheads, making ice throw a safety concern.

I was astounded by the report from the Harvard School of Public Health stating that using more wind energy will reduce health care costs. When they looked at the health effects from two fossil-fuel-fired power plants in Massachusetts.

The Report estimates that the air pollution from the plants caused:

**159 premature deaths**

**1,710 emergency room visits**

**43,300 asthma attacks**

Replacing as much of this electricity as possible with wind energy will clearly lower associated health care costs. And keep families together longer

The majority of people in the United States are concerned about the environmental effects of conventional energy supplies, and are supportive of renewable energy as an alternative.

Naturally, in a democratic society, public acceptance is vital to the ultimate success of any initiative. Wind power does experience some public opposition, but if it was truly representative, it would have halted wind development 25 years ago.

Offshore wind energy is an example of a renewable energy technology capable of making a significant contribution to Massachusetts electricity requirements.

It is well known that wind energy generates **electricity** while **avoiding most of the associated adverse impacts on the environment**. But it also generates **jobs**. Studies have shown that offshore wind energy is likely to create jobs comparable in numbers to the conventional power sector. Also, because the manufacture of wind turbines, offshore support structures and other products utilizes established skills and facilities from the heavy engineering sector, **offshore wind energy can offer revitalization for communities suffering from a decline in traditional manufacturing or losses in the fishing sector**.

Now the Army Corp of Engineers and the State of Massachusetts will choose between two starkly divergent paths. One presents an opportunity for Massachusetts to become a leader in the deployment of newer, cleaner electricity generating technologies; the other path will continue reliance on the technologies of the last century, technologies whose long use have exposed even longer-term adverse environmental, health, and economic effects.

As with all things that we undertake, we never quite know where we are going to end up. This comment was fashioned to do more than just support offshore wind. By going

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through the past 100-plus years of our association with electricity, it is easy to see how we have come to rely on this modern wonder and the comforts that it affords us.

How we get that electricity is the core of this debate. The arguments presented in this response clearly indicate where the "good" choice resides

Whether or not the project is permitted is now in your hands as you weigh the merits of the project. Being able to participate in the outcome of the project is the marvel of our society, and the envy of the world.

We do not have to agree but to be responsible, we must participate. Thank you for this opportunity to do so.

Respectfully,

Bob Link  
Permit Compliance Officer  
Winergy LLC  
640 Montauk Highway  
Shirley, New York 11967

Michael Kujawa  
Market Research Analyst and  
Renewable Energy Project Consultant  
5 Atlas St.  
East Setauket, NY 11733

Dennis Quaranta  
President  
Winergy LLC  
640 Montauk Highway  
Shirley, New York 11967

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49 Riverdale South  
South Dennis, MA 02660

Karen K. Adams  
Cape Wind Energy Project EIS Manager  
US Army Corps of Engineers - New England District  
Regulatory Division  
696 Virginia Road  
Concord, MA 01742-2751

RECEIVED  
JUN 10 2005  
U.S. ARMY CORPS OF ENGINEERS  
NEW ENGLAND DISTRICT

Reference File # NAE – 2004-338-1

Dear Ms. Adams:

I do not feel that the Environmental Impact Statement which the Corps of Engineers has prepared is sufficient to allow approval of the proposed Wind Farm on Nantucket Sound. As extensive as the draft report is, it is only a small part of the necessary information needed to allow construction of a project of this size, especially considering the location that is proposed. Most significant, however, is the fact that this draft prepared by the Corps was based on information from consultants paid for by Cape Wind. How can there be any confidence that this information was impartial and not biased to favor the applicant?

I urge you to delay the release of the final EIS until an independent commission studies this proposal, and the Corps receives data from this impartial source. Also, information from those opposed to the project should be considered and included in your final report. If a final EIS is based on information from all sides of this issue, there will be much more confidence in its accuracy and impartiality.

The entire impact of projects such as this should be studied carefully by an independent commission charged with developing Federal regulations for any development in our coastal waters. Before any project of this type and size goes any further, there should be regulations in place to cover the construction of Wind Farms in all coastal waters of the United States, such as has been done for oil drilling. Without regulations in place, we are opening up the potential for many such developments, with no control over the final impact.

Nantucket Sound is a very precious area that deserves protection, not development. This project is called a "Wind Farm" but in fact it is a huge "Power Plant". To construct that in Nantucket Sound is to begin the destruction of one of the most special areas of our coast. It is no secret that there are already other proposals for similar projects in the same coastal area, and without regulations in place, once the first one is proposed the others will just fall in line and be approved. Does anyone know what the impact of several "Wind Farms/Power Plants" will be? Does anyone care?

I am strongly opposed to the idea that a private company is able to arbitrarily pick out a

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site for their project that is not owned by them, but in fact is in public ownership, and be allowed to use it (without purchasing or leasing it) and make a profit for their investors. This is setting another precedent that will automatically allow more of these projects to be developed with no control, and ultimately lead to a tremendous loss to the public in many ways.

As part of the approval process, there should be a extensive search for alternate sites, and the fact that it would be more expensive for the company to use another site should not be a reason to eliminate them. I believe that there has not been enough of an effort made by the Corps to come up with any other sites for this type of project.

I have been an environmentalist for decades and have worked for years here on Cape Cod to preserve our beautiful land and waters. Even though I strongly believe that we must find alternate energy sources, I can not in all good conscience support the destruction of Nantucket Sound in order to produce alternate energy. There are many other places and ways to achieve that goal.

Before you go any further with the approval process, regulations must be drawn up for these projects. Only then, should these projects be considered, and approval granted or denied. Nantucket Sound is too precious to destroy! At this time, the Corps is the only agency that has the power to make the decision to preserve or destroy Nantucket Sound. **Please, protect it!**

Sincerely,

A handwritten signature in black ink, reading "Beverley A. LeBlanc". The signature is written in a cursive, flowing style with a large initial 'B'.

Beverley A. LeBlanc

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Comment Sheet  
On Draft Environmental Impact Statement (EIS)  
For the proposal for an Offshore Wind Project  
In Nantucket Sound

Name: FRANCES D. QUINN, JOHN A. QUINN

Address: 45 CHECH RD. COTUIT, MA. 02635 (Summer.)  
275 E. WYNNWOOD RD.  
MERION STATION, PA. 19066

Phone Number (Please include area code): (508) 428-7485 (Summer.)

Email Address: quinn@seas.upenn.edu (610) 667 7966 WINTER

Please state your questions/comments in the space below:

THE PROPOSED WIND FARM WOULD BE DANGEROUS  
TO SHIPPING & FERRY SERVICE IN THE AREA  
(SEE TESTIMONY OF FERRY OPERATORS), TO AIR  
TRAINING IN AREA (SEE TESTIMONY OF STAFF  
AT MILITARY BASES) AND TO FISHING & WILDLIFE.  
THERE SHOULD BE A THOROUGH REVIEW OF ALLOCATIONS  
OF ALL FEDERAL LAND & WATERS AND WHEREVER  
SUCH IS GRANTED, A BOND SHOULD BE SECURED  
FROM THE DEVELOPERS TO COVER MAINTENANCE,  
REPAIR AND IF NECESSARY REMOVAL FOR A 25 YR.  
PERIOD. THANK YOU.

Please fold this questionnaire in half, affix two stickers or pieces of tape,  
and mail it to the address listed on the other side.

*Frances D. Quinn*

31 JAN. 2005

3940

**Robert & Margaret Wineman**  
**Box 306, 10 Windy Hill Lane**  
**East Orleans, MA 02643**

January 22, 2005

Karen Kirk-Adams  
Cape Wind Energy EIS Project  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

We congratulate the Army Corp for preparation of Draft Environmental Impact Statement which has covered numerous issues satisfactorily. Just yesterday your handling of the permitting process was validated by refusal of the Supreme Court to hear the opponent's Met Tower case.

We favor Cape Wind being granted the permit to complete the project, as proposed, for the following important reasons, among others:

1. The most important is reducing our reliance on fossil fuels, with the long term goal of reducing climate change, and our dependence on foreign sources, as well as the dangers from transport of fossil fuels, including natural gas.
2. New England and the entire country needs an order of magnitude increase in renewable energy sources, to which the Cape Wind Project will be a significant contributor.
3. The reduction in power plant emissions will produce health benefits of \$53 million per year, according to reputable studies.
4. Economic benefits include creation of new jobs, and annual savings in retail energy costs for Cape Cod and New England.
5. Following installation, the presence of wind-turbine structures in the sea bed will be likely to improve productivity of fishing /shell-fishing in surrounding waters.
6. The FAA determined that there would be no hazard to aviation. In addition, the wind farm location does not impinge on ship channels and waters used by vessels of deeper draft.
7. We appreciate that the Corps has taken into consideration possible impacts on avian and marine species, but statistics on human impacts show much greater dangers than wind turbines.

The best interests of the Public and the Environment will be served by prompt completion of the Project.

*Robert Wineman*  
Robert Wineman

*Margaret Wineman*  
Margaret Wineman

RECEIVED  
FEB 2 2005

COAST DIVISION

Karen Adams

20891 Jericho Road  
Watertown, New York  
13601 1/29/05

3041

Dear Ms. Adams:

I'm all for wind energy. My

electricity is made that way.

However please make ~~sure~~ sure all  
wind energy turbines are made so as not  
to harm birds or mammals.

Sincerely,

Hinnie Dushkind

RECEIVED

2005-2-25

13601-1

Adams, Karen K NAE

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3042

**From:** Rosenberg, Larry B NAE [Larry.B.Rosenberg@nae02.usace.army.mil]  
**Sent:** Wednesday, February 02, 2005 3:23 PM  
**To:** Energy, Wind NAE  
**Subject:** FW: Cape Cod Wind Farm (Cape Wind Associates)

-----Original Message-----

**From:** Paula Tice [mailto:paulatice@bigvalley.net]  
**Sent:** Wednesday, February 02, 2005 3:18 PM  
**To:** Rosenberg, Larry B NAE  
**Cc:** Mark F. McInemey  
**Subject:** Cape Cod Wind Farm (Cape Wind Associates)

**Dear Mr. Rosenberg:**

***I would like to express my concern about the installation of 130 offshore wind turbine generators on Horseshoe Shoal.***

***I recognize the need for energy, however based upon what has been happening to Migratory Birds (slaughter) in our nearby AltaMont Pass (hills outside the Bay Area) near San Francisco has taken the lives of thousands of birds who fly into the turning wind fans.***

***What can be done to spare the lives of birds who are flying in that area and have been for hundreds of years? I don't see any constructive ideas on how these offshore wind turbine generators can be designed to forstall the slaughter of these migratory birds.***

***Sincerely,***

***Paula N. Tice  
1469 Barnum Court  
Turlock, CA. 95380***

Dial Broadband has arrived Nationwide! Up to 5 times faster than traditional dialup connections from \$13.33/month! See the demo for yourself at [www.BigValley.net](http://www.BigValley.net)

**Adams, Karen K NAE**

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3043

**From:** Tom DeVesto [tdevesto@tivialaudio.com]  
**Sent:** Wednesday, February 02, 2005 3:32 PM  
**To:** Energy, Wind NAE  
**Subject:** Wind Factory on Cape Cod

Please take note of my opposition to the proposed Wind Factory on Cape Cod. As an avid environmentalist and boater I strongly oppose this kind of project in the middle of one of our country's great natural resources. Thanks

Tom DeVesto  
President & CEO  
Tivoli Audio, LLC  
451 D Street Suite 902  
Boston, MA 02210  
(617) 345-0066  
FAX: (617) 428-0088

**This message (including any attachments) contains confidential information intended for a specific individual and purpose, and is protected by law. If you are not the intended recipient, you should delete this message. Any disclosure, copying, or distribution of this message, or the taking of any action based on it, is strictly prohibited.**

2/2/2005

**Adams, Karen K NAE**

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3044

**From:** Cctowboat1@aol.com  
**Sent:** Wednesday, February 02, 2005 3:58 PM  
**To:** Energy, Wind NAE  
**Subject:** Wind Project in Nantucket sound

Hi Karen,

I own TowBoat/US Cape Cod and am very concerned about the possibility of many wind turbines being built in Nantucket Sound.

I will not be able to see them from my house but my concern is when I will not be able to see them while I am in Nantucket Sound in the fog while looking for a disabled boat that may have hit a tower and is taking on water.

If a vessel hits one of these towers in the fog, and we know that's going to happen, and starts taking on water and we respond along with the USCG response time will be much slower that if we didn't have to worry about the towers being out there.

There must be a better place to put these towers other than the middle of Nantucket Sound.

Thank you for your consideration in this matter for myself, USCG and the boating public

Bill Hobbs  
Cape Cod Marine Towing  
TowBoatUS Cape Cod

2/2/2005

Adams, Karen K NAE

3045

**From:** JohnCSnedeker@cs.com  
**Sent:** Wednesday, February 02, 2005 5:54 PM  
**To:** Adams, Karen K NAE  
**Cc:** lmartin@capewind.org; Al.Benson@ee.doe.gov; James.Fargo@ferc.fed.us;  
ago@ago.state.ma.us; William.Delahunt@mail.house.gov  
**Subject:** CAPE WINDS DEIS

## SYNERGISTIC DYNAMICS, INC.

◀ S D I ▶

John C. Snedeker, Chairman & CEO  
5 Anchorage Court, Westwind Landing  
Savannah GA 31410 USA  
[www.sdi-savannah.com](http://www.sdi-savannah.com)

Savai  
E-mai

912-897-4764 1-888-897-4764

03 February 2005

US ARMY CORPS OF ENGINEERS  
New England District  
696 Virginia Road  
Concord MA 01742

Att: Ms. Karen Kirk-Adams

Re: Cape Wind Energy EIS Project  
USACE File NAE-2004-338-1

Dear Ms. Kirk-Adams

My company and I support the Project and commend the New England District of the US Army Corps of Engineers for its leadership and professionalism in preparing one on the most comprehensive Draft Environmental Impact Statements (DEIS) we have reviewed in many years.

Synergistic Dynamics, Inc. ("SDI") is a professional services firm, established in 1983, that focuses on the maritime and energy industries. We have been actively involved in reviewing, assessing and commenting on DEISs and related documents for many years, including a series of DEISs relating to projects at the Department of Energy's Savannah River Site and, currently, the DEIS for improving the Port of Savannah, Georgia and deepening the Savannah River to accommodate the ever larger container ships calling on the terminals of the Georgia Ports Authority. We were also actively involved in the permitting process conducted by the Federal Energy Regulatory Commission (FERC) for the expansion of the Elba Island LNG terminal on the Savannah River near Savannah. My company and I are aware of the imperative need to expand the use of alternative energy sources to reduce the dependency of the United States on imported oil, and to mitigate the impacts on the environment caused by power plants fueled by fossil fuels. Because of my company's focus on energy issues, I have been following the development of the Cape Wind project since its inception, not only from a professional perspective, but also because members of my family are year-round residents of Cape Cod and I visit there frequently. I have been impressed by the continuous and balanced coverage by the Cape Cod Times and other print media in the area. I have transited Nantucket Sound on my own yacht, so I am personally familiar with the area in question and the navigation issues addressed in the DEIS. I am also a licensed private pilot, so I am sensitive to the air traffic issues that have been raised. Without going into detail, I am satisfied that the Project will pose no threats to navigation by

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commercial vessels or recreational boaters or to prudent pilots who obey the Federal Air Regulations. I am limiting our comments to the issues of (1) location and (2) federal regulations.

## LOCATION

There are a limited number of areas in the United States, and indeed in the World, where wind velocities are high enough and consistent enough to make wind energy an economically viable alternative. In the Eastern United States, according to a study published in the Battelle Wind Energy Resource Atlas (cited by the American Wind Energy Association), the only favorable locations for offshore wind energy projects are along the coast from Maine to Cape May NJ, with the most favorable being in the waters off Cape Cod.

Other siting considerations are (1) proximity to an area of high demand for electric power, (2) proximity to an existing power grid and (3) shallow water to keep construction costs reasonable. Another very important advantage of an offshore site compared to most land sites is a reasonable cost of the "real estate". Energy ministers in European countries, such as England, Denmark and Germany, understand these considerations, which is why those countries lead in the production of power from offshore wind farms.

The cost of the real estate is a significant factor because the area of the "foot print" of a wind energy project is much greater per unit of energy produced than those of power plants fueled by coal, oil or gas. (The most efficient, in terms of power produced per unit of site area, is nuclear).

Offshore wind energy facilities are also far less intrusive on nearby communities and their residents than are conventional power plants on land. Controversial as the Horseshoe Shoal site has been, it presents far less of a threat, in our opinion, to the interests and concerns — aesthetic, economic, safety and emotional --- of nearby residential property owners and commercial activities than do LNG terminals or a new or expanded conventional power plant of comparable capacity.

Laws and regulations pertaining to projects in state waters vary from state-to-state, as do attitudes toward energy-related projects. The Office of the Governor of the State of New York, for example, is actively supporting a wind energy project offshore Long Island proposed by the Long Island Power Authority (LIPA). The Governor and other elected officials of the Commonwealth of Massachusetts, on the other hand, are actively opposing the Cape Wind project. The laws and policies of prospective host states are clearly factors to consider when selecting a location for an offshore wind energy project.

With the sole exception of the political climate in Massachusetts, all of the siting considerations are favorable to the Project.

## FEDERAL REGULATIONS

The proposed Project will be situated in Federal waters. The USACE has jurisdiction over the Project under Section 10 of the Rivers and Harbors Act of 1899, the National Environmental Policy Act of 1969 and other statutes; however, a number of opponents of the Cape Wind Project have cited the lack of specific language in the Outer Continental Shelf (OCS) Lands Act authorizing the Federal Government to convey property rights to a private entity and to receive compensation for granting such rights. While this is technically true, it is a situation that can and should be corrected by Federal legislation. In fact, as noted below, legislation was

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proposed in February 2003 to do just that.

The Outer Continental Shelf Lands Act (43 USC 1333 et seq.) authorizes the Minerals Management Service (MMS), acting on behalf of the Secretary of the Interior, to manage and regulate the extraction of oil, gas, sand, gravel and certain other mineral resources from the seabed under waters subject to the jurisdiction of the Federal Government. The MMS is authorized by the Act to lease seabed blocks for those purposes and to collect lease payments and royalties or other forms of payment for the minerals extracted. These procedures have been in place for many years. The MMS already has jurisdiction over extraction of oil, gas and minerals from the seabed in the Federal waters where the Project is proposed to be located. The jurisdictions of the MMS are divided into Areas, Regions and Planning Areas. The most active is the Gulf of Mexico Region, which is divided into three Planning Areas, Eastern, Central and Western. The Atlantic OCS Area is divided into four Regions, North Atlantic, Mid-Atlantic, South Atlantic and Straits of Florida. When legislation is enacted to regulate other energy-related projects on the OCS, the North Atlantic Region will be the MMS's lead agency for the Cape Wind Project.

In February 2003, Congresswoman Barbara Cubin, a member of the House Subcommittee on Energy and Mineral Resources of the House Committee on Resources, introduced a Bill (H.R. 793) that would have amended Section 8 of the Outer Continental Shelf Lands Act (43 USC 1337) by adding language that would authorize the Secretary of the Interior to grant easements and rights-of-way on the OCS for energy-related activities that "produce or support production, transportation, or transmission of energy from sources other than oil or gas". Mrs. Cubin's Bill was referred to the subcommittee on Energy and Mineral Resources. There was no further action on the Bill in the 108th Congress.

On 26 January 2005, Mrs. Cubin was elected Chairman of the House Subcommittee on Energy and Mineral Resources in the 109th Congress. If she or any other member of Congress introduces a similar Bill in the 109th Congress, the House Subcommittee on Energy and Mineral Resources will have jurisdiction over it. Congressman Edward J. Markey of Massachusetts is a member of the Subcommittee.

Mrs. Cubin's 2003 Bill (H.R. 793) would have amended the Outer Continental Shelf Lands Act by adding a new subsection (p) captioned EASEMENTS OR RIGHTS-OF-WAY FOR ENERGY AND RELATED PURPOSES. The full text of the proposed new subsection:

(1) The Secretary, in consultation with the Secretary of the Department in which the Coast Guard is operating and other relevant departments and agencies of the Federal government, may grant an easement or right-of-way on the outer Continental Shelf for activities not otherwise authorized in this Act, the Deepwater Port Act of 1974 (33 U.S.C. 1501 et seq.), or the Ocean Thermal Energy Conversion Act of 1980 (42 U.S.C. 9101 et seq.), or other applicable law when such activities--

- (A) support exploration, development, production, transportation, or storage of oil, natural gas, or other minerals;
- (B) produce or support production, transportation, or transmission of energy from sources other than oil and gas; or
- (C) use facilities currently or previously used for activities authorized under this Act.

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(2) (A) The Secretary shall establish reasonable forms of annual or one-time payments for any easement or right-of-way granted under this subsection. Such payments shall not be assessed on the basis of throughput or production. The Secretary may establish fees, rentals, bonus, or other payments by rule or by agreement with the party to whom the easement or right-of-way is granted.

(B) Before exercising the authority granted under this subsection, the Secretary shall consult with the Secretary of Defense and other appropriate agencies concerning issues related to national security and navigational obstruction.

(C) The Secretary is authorized to issue an easement or right-of-way for energy and related purposes as described in paragraph (1) on a competitive or noncompetitive basis. In determining whether such easement or right-of-way shall be granted competitively or noncompetitively, the Secretary shall consider such factors as prevention of waste and conservation of natural resources, the economic viability of an energy project, protection of the environment, the national interest, national security, human safety, protection of correlative rights, and the potential return for the easement or right-of-way.

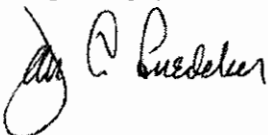
(3) The Secretary, in consultation with the Secretary of the Department in which the Coast Guard is operating and other relevant departments and agencies of the Federal Government and affected States, shall prescribe any necessary regulations to assure safety, protection of the environment, prevention of waste, and conservation of the natural resources of the outer Continental Shelf, protection of national security interests, and the protection of correlative rights therein.

(4) The Secretary shall require the holder of an easement or right-of-way granted under this subsection to furnish a surety bond or other form of security, as prescribed by the Secretary, and to comply with such other requirements as the Secretary may deem necessary to protect the interests of the United States.

(5) Nothing in this subsection shall be construed to displace, supersede, limit, or modify the jurisdiction, responsibility, or authority of any Federal or State agency under any other Federal law.

(6) This subsection shall not apply to any area on the outer Continental Shelf designated as a National Marine Sanctuary.

Very truly yours,



John C. Snedeker  
Chairman & CEO

Adams, Karen K NAE

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**From:** Jeff Dukes [jeffrey.dukes@umb.edu]  
**Sent:** Wednesday, February 02, 2005 5:13 PM  
**To:** Energy, Wind NAE; mepa@state.ma.us; pdascombe@capecodcommission.org  
**Subject:** support Cape Wind Energy Project

To Whom it May Concern:

As a citizen, and as a UMass Boston biologist working on issues of energy sustainability and ecosystem responses to climate change, I would like to voice my support for the Cape Wind Energy Project. We need to accelerate the development of renewable energy sources as quickly as possible to minimize our greenhouse gas emissions. Environmentally, the benefits of this project appear to greatly outweigh any drawbacks. Aesthetically, the visual impact of windmills would be small, and, to my eye, pleasant.

Thank you for considering my input.

Sincerely,  
Jeffrey S. Dukes  
Assistant Professor

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Jeffrey S. Dukes  
Department of Biology  
University of Massachusetts  
100 Morrissey Blvd.  
Boston, MA 02125  
Tel. (617) 287-6614  
<http://globalecology.stanford.edu/DGE/Dukes/Dukes.html>

**Adams, Karen K NAE**

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**From:** Laurene Gerrior [arethusa@comcast.net]  
**Sent:** Wednesday, February 02, 2005 8:36 PM  
**To:** Energy, Wind NAE  
**Subject:** comments on Cape Wind DEIS

Please consider my opinions about the proposed Cape Wind Farm on Horseshoe Shoals when making a determination on the upcoming DEIS. I have three points I would like you to consider:

First, as an avid birder, I cringe every time a bird hits my windows. Because of that, I have done considerable research into avian mortality due to in flight collisions, especially with man made structures such as cell towers and sky scrapers. What I have been able to learn from sources both pro and con is that humans are doing a number on the bird population with many more deaths associated with highly lighted structures and those with extensive guy wire fields. It is my understanding that the placement and lighting of the wind turbines would yes, kill some birds, but not in the numbers that are being bandied about.

Secondly, in the early 70's in what I like to think of as my "earthy-crunchy, back to the land" days, my husband and I had a home with a multi-fuel furnace, solar hot water and attached grow space. Our neighbors had a wind turbine and had more trouble with the electric company concerning power going back through the lines that he finally took it down. So I have a long history of interest in alternate power. I feel that mankind must explore alternates to our petro-carbon dependencies. I believe solar, wind, geothermal, and any other strategy that uses the earth's renewable power instead of depending on depleting sources the only logical thing to do.

Finally, after having spent some time in Copenhagen, I cannot see for the life of me what the people who oppose the look of turbines are thinking. I thought the 25 or so windmills right outside the harbor (and visible from most of the city) were beautiful. They looked like a graceful sculpture, floating above the water. My husband will attest to my fascination with them for I took way to many photos, from every conceivable angle!

So you can see that I really hope the Cape Wind project goes through. I have carefully considered it, read arguments for and against it, attended talks and followed news articles. I feel renewable power is the way our country should be heading and I will do what I can to help this happen.

Laurene Gerrior

-Special Needs Teacher (retired, 30 years)

-Founder and former advisor to Environmental/Outdoor Club GNBRVTHS

-Rochester Open Space Committee Member

-Rochester Greenways Board of Directors

-Rochester Land Trust Board of Directors

-Plant Conservation Volunteer for NEWFS/Natural Heritage Program

-Member of Wildlands of SE MA, Lloyd Center, MA Audubon, and many other Environmental Organizations!

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Laurene Gerrior

1098 Walnut Plain Road

Rochester, MA 02770

508-763-4223

arethusa@comcast.net

**Adams, Karen K NAE**

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**From:** felinophile@care2.com  
**Sent:** Wednesday, February 02, 2005 8:45 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

M. Money Penny  
9772 Bay Harbor Circle  
Ft. MYERS, Florida 33919

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**Adams, Karen K NAE**

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**From:** MHerzb8468@aol.com  
**Sent:** Wednesday, February 02, 2005 10:23 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind

**Dear Karen Kirk Adams:**

As a frequent visitor to Cape Cod I am very sensitive to the need to protect the beautiful, sensitive environment that we have. There are hundreds of things that we should be doing to protect this jewel of an area. Delaying or stopping the prudent development of alternative energy sources, such as the Cape Wind project, is not one of them! Please do all you can to move ahead on a sane, sensible, environmentally reasoned pathway towards allowing the Cape Wind project to proceed. The Cape needs this project...the country needs this project! We look forward to your leadership so that we may use it as an example in other places, such as the NJ shore. Thank you.

Mark Herzberg  
24 Clinton Place  
Metuchen, NJ 08840  
mherzb8468@aol.com

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Adams, Karen K NAE

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**From:** DKAMFORD@aol.com  
**Sent:** Wednesday, February 02, 2005 10:25 PM  
**To:** Energy, Wind NAE  
**Subject:** Fwd: Recent News

In a message dated 2/2/05 10:22:00 PM Eastern Standard Time, DKAMFORD writes:

Karen,

How can the US Gov allow public land to be given for free to a "for profit man"???  
I would like to open a floating Starbucks or MacDonalds next to it or maybe a casino --  
I mean it would be for the public good -- the ferries and night fisherman might enjoy a  
coffee break so they don't crash into the towers-- it would keep us neighbors safe and  
sound. And yes I can see the test tower, which I understand is only 2/3rds the final  
height from my house! And that doesn't include the propellers.

What is the contingency plan should the project go belly up "We the People" get to pay  
for it?

Is there an oil supply for this project? What is the clean up plan should a boater or  
storm take it out. Exxon Valdesz?

What is the noise factor? Or are we not worrying about that because the wind blow in  
another direction tomorrow?

I will await your answers.

D Kamford  
203-967-2107

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**Adams, Karen K NAE**

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**From:** George B Elia [gbelia@comcast.net]  
**Sent:** Thursday, February 03, 2005 12:05 AM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind

Many of us living here on Cape Cod have grown weary of all the misinformation and hand wringing of those who oppose the wind farm project proposed for Nantucket Sound. The advantages of this project far outweigh whatever drawbacks there may be. This is a source of energy whose time has come, let's quit the heel dragging and get on with it.

George B. Elia  
113 Wianno Road  
Yarmouth Port, MA 02675  
[gbelia@comcast.net](mailto:gbelia@comcast.net)

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Adams, Karen K NAE

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**From:** REED MORRISON [RAMRAMA@comcast.net]  
**Sent:** Thursday, February 03, 2005 8:50 AM  
**To:** Energy, Wind NAE  
**Subject:** Save Our Sound

Karen Kirk-Adams:

A comprehensive ocean management policy must be established and adopted by the federal government before any development can be permitted.

Would a wind farm be permitted in Edgartown? or downtown Nantucket or Hyannisport?

There is an appropriate place for everything and there is also a wrong place.

Wind farms can be very beautiful in the right places.

Locating a wind farm in Nantucket Sound would not only diminish the Sound

it would set back the acceptance of wind farms in general.

The unblemished horizon of Nantucket Sound is as sacred as the Grand Canyon,

Yosemite Valley of the Golden Gate.

Reed Morrison

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**Adams, Karen K NAE**

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**From:** Caroline Carton [carcarton@yahoo.com]

**Sent:** Thursday, February 03, 2005 9:02 AM

**To:** Energy, Wind NAE

**Subject:** windfarm

I have lived on Nantucket sound all my life... and I am without a doubt for the wind farm!

Please get it built.

Caroline Carton

P.O. Box 553

Hyannisport MA. 02648

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Do you Yahoo!?

Yahoo! Search presents - Jib Jab's 'Second Term'

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Comment Sheet  
On Draft Environmental Impact Statement (EIS)  
For the proposal for an Offshore Wind Project  
In Nantucket Sound

Name: CONSTANCE DANFORTH

Address: 68 FERRY LANE, BARRINGTON RI 02806

(Summer - 2 BUTLER AVENUE CENTERVILLE, MA. 02632

Phone Number (Please include area code): RI MA. 401 245-9221 - 508 775.1408

Email Address: \_\_\_\_\_

Please state your questions/comments in the space below:

Before the Army Corps of Engineers review the Cape Winds Proposal, I believe strongly that the Federal Government should pass laws regulating and authorizing any use of our waters for private development! These public waters belong to ALL of us! The benefits of the Cape winds project should be carefully weighed against harmful environmental impact, proposed costs to taxpayers (with Cape winds reaping a "tidy" profit) and negative effects on the regional economy.

Strong laws should be passed before any projects in these waters can be developed. Without guidelines, how can any group realistically approve or deny any proposal?

I would hope that our elected officials in Washington will do their job and protect our waters with strong legislation!

Thank you for your kind attention.

Constance Danforth

Please fold this questionnaire in half, affix two stickers or pieces of tape, and mail it to the address listed on the other side.

NOISE/VI  
503 2-1-14  
CRANF

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Comment Sheet  
On Draft Environmental Impact Statement (EIS)  
For the proposal for an Offshore Wind Project  
In Nantucket Sound

Name: DAVID SEAGER

Address: 1445 Lombard Rd  
Paradise Ca 91106

Phone Number (Please include area code): 626 792 7091

Email Address: dave.seager@hojanakeim.com

Please state your questions/comments in the space below:

- our family has owned  
property on Martha's Vineyard  
since 1890 + still do.  
- We do not to have  
an offshore wind Project  
in our area, ever.  
Thank you.

Please fold this questionnaire in half, affix two stickers or pieces of tape,  
and mail it to the address listed on the other side.